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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,881	10/28/2003	Takashi Kubo	244640US0	4046
22850	7590	05/03/2006	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			RONESI, VICKEY M	
			ART UNIT	PAPER NUMBER

1714

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/693,881

Applicant(s)

KUBO ET AL.

Examiner

Vickey Ronesi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 9-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 9-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

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DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/15/2006 has been entered.

2. All outstanding rejections are withdrawn in light of applicant's amendment filed 2/15/2006.

Claim Objections

3. Claim 1 is objected to because "phosphorous" is a misspelling of "phosphorus." Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-5 and 9-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the

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relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

With respect to claim 1, the range of carbon atoms of 8 to 18 for Z in formula (II) fails to satisfy the written description requirement of 35 USC 112, first paragraph since there does not appear to be a written description requirement of the endpoint of 18 carbon atoms for all alkoxy, alkenyloxy, acyloxy groups, and mixtures thereof in the application as originally filed, *In re Wright*, 866 F.2d 422, 9 USPQ2d 1649 (Fed. Cir. 1989) and MPEP 2163. The examiner has not found any support for this phraseology in the specification as originally filed. While there is support for tetrastearyl titanate (i.e., C₁₈ tetraalkoxy of formula (II)) on page 6, line 8 of the specification, there is no support for C₁₈ alkenyloxy and C₁₈ acyloxy groups or mixtures of C₁₈ alkoxy groups with other groups. Case law holds that, with respect to changing numerical range limitations, the analysis must take into account which ranges one skilled in the art would consider inherently supported by the discussion in the original disclosure, *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976).

With respect to claims 2-5 and 9-13, they are rejected for being dependent on a rejected claim:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1-3, 11, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Borman et al (US 5,453,479).

Borman et al discloses preparing a polyester with a polyesterification catalyst system comprising a phosphorus component such as sodium dihydrogen phosphate and a titanium catalyst such as tetra-2-ethylhexyl titanate (Table 4, Example 20), wherein the catalyst is used in an amount of 0.005-0.2 wt % based on polyester (col. 5, lines 16-18) and the molar ratio of phosphorus to titanium is less than about 3:1 (col 4, lines 57-59), i.e., about 0.6:1 weight ratio of sodium dihydrogen phosphate to tetra-2-ethylhexyl titanate.

With respect to the intended use in the preamble (i.e., "for a toner"), it is noted that case law holds that "where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention, the preamble is not a claim limitation." See *Rowe v. Dror*, 112 F.3d 473, 478, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997).

In light of the above, it is clear that Borman et al anticipates the presently cited claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barkey (US 4,217,440) in view of Schiraldi (US 5,922,828).

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Barkey discloses branched polyesters used in electrographic toners (col. 10, line 3) prepared by polycondensing a diol such as $\text{RO}-\text{R}^1-\text{OR}^2$ (col. 8, lines 18-56) and diacids such as succinic acid (col. 8, line 57 to col. 9, line 31) in the presence of 0.01-0.1% titanium catalyst (col. 6, lines 51-68) and 0.1-0.5% deactivator such as phosphoric acid (col. 7, lines 15-40). Note col. 7, lines 9-14 where the deactivator is utilized not only added at the end of polycondensation but also utilized to reduce the effectiveness of high reactive catalysts. Given that the resin is a polyester, the composition intrinsically has a softening point of 90-170 °C.

While Barkey is open to the use of any suitable alkoxytitanium catalyst, it fails to explicitly disclose a tetra- C_8 - C_{18} titanate or amino-modified titanium catalyst.

Schiraldi discloses a polyester composition and the use of a titanium catalyst and teaches well-known alkoxytitanium catalysts for polyester condensation include compounds of the formula TiX_4 where X is independently $-\text{OR}$ or $-\text{NR}'_2$, wherein R is a C_1 - C_{10} compound and R_1 is hydrogen or R (col. 5, lines 5-26).

Given that alkoxytitanium catalysts for polyester condensation are known in the art as taught by Schiraldi, it would have been obvious to one of ordinary skill in the art to utilize such conventional catalysts as taught by Schiraldi as the alkoxytitanium catalyst of Barkey.

7. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barkey (US 4,217,440) in view of Schiraldi (US 5,922,828) and further in view of Yamamoto et al (US 5,637,427).

The discussion with respect to Barkey and Schiraldi in paragraph 6 above is incorporated here by reference.

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Barkey discloses generically discloses the use of a bisphenol as a diol and the use of succinic acid as an exemplary diacid in making its polyester, however, it does not disclose the use of bisphenol A and an alkenyl-substituted succinic acid.

Yamamoto et al discloses toner and teaches that a polyester derived from ethoxylated bisphenol type diols (col. 8, lines 9-37) and alkenyl-substituted succinic acids (col. 8, line 61 to col. 9, line 4) provides for a toner with improved pulverizing properties, powder properties, preservability, fixing properties at low temperatures, impact resistance, and surface lubricating properties (col. 9, lines 5-21).

Since Yamamoto et al teaches the benefits by using particular raw materials in polycondensing a polyester and given that Barkey is already open to the use of a diol such as bisphenol A and a diacid such as succinic acid, it would have been obvious to one of ordinary skill in the art to utilize the raw materials taught by Yamamoto et al in Barkey.

8. Claims 1-5, 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harazoe et al (US 5,519,112) in view of Schiraldi (US 5,922,828).

Harazoe et al discloses polyesters prepared by polycondensing raw materials in the presence of a titanium alkoxide catalyst such as titanium tetrabutoxide (col. 5, lines 1-6, 27-41) and 0.0001-0.1 wt % inorganic phosphorus compounds such as polyphosphoric acid (col. 5, lines 7-16, 42-46). Note that polyphosphoric acid has at least two phosphate groups, giving a molecular weight of at least 177 g/mol. Given that the resin is a polyester, the composition intrinsically has a softening point of 90-170 °C.

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While Harazoe et al is open to the use of any suitable alkoxytitanium catalyst, it fails to explicitly disclose a tetra-C₈-C₁₈ titanate or amino-modified titanium catalyst.

Schiraldi discloses a polyester composition and the use of a titanium catalyst and teaches well-known alkoxytitanium catalysts for polyester condensation include compounds of the formula TiX₄ where X is independently -OR or -NR'₂, wherein R is a C₁-C₁₀ compound and R₁ is hydrogen or R (col. 5, lines 5-26).

Given that alkoxytitanium catalysts for polyester condensation are known in the art as taught by Schiraldi, it would have been obvious to one of ordinary skill in the art to utilize such conventional catalysts as taught by Schiraldi as the alkoxytitanium catalyst of Harazoe.

Response to Arguments

9. Applicant's arguments filed 2/15/2006 have been fully considered but they are not persuasive. Specifically, applicant argues that surprising and unexpected results have been established for the use of a titanium catalyst like presently claimed.

In response to applicant's argument, the 37 CFR 1.132 declaration filed 2/15/2006 has been fully considered, however, this data combined with the data in the application as originally filed are not commensurate in scope with the present claims. Case law holds that evidence is insufficient to rebut a *prima facie* case if not commensurate in scope with the claimed invention. *In re Grasselli*, 713 F.2d 731, 741, 218 USPQ 769, 777 (Fed. Cir. 1983).

With respect to formula (I), applicant only exemplifies one compound of this formula which is titanium diisopropylate bis(triethanolamine) (catalyst C1). Case law holds that evidence of superior properties in one species insufficient to establish the nonobviousness of a

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subgenus containing hundreds of compounds. *In re Greenfield*, 571 F.2d 1185, 1189, 197 USPQ 227, 230 (CCPA 1978).

With respect to formula (II), applicant only exemplifies compounds of formula (II) when Z is an alkoxy group. It is noted that the data is commensurate in scope for a titanium catalyst of formula (II) with an alkoxy group having 8 to 18 carbon atoms when combined with the phosphorus compound of instant claim 5.

Contact Information

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vickey Ronesi whose telephone number is (571) 272-2701. The examiner can normally be reached on Monday - Friday, 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

4/28/2006
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